

## REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

### **Status of Claims:**

Claims 1-17, 20-26 and 30-33 are currently being cancelled. Please note that these canceled claims were withdrawn from consideration, whereby Applicants reserve the right to prosecute these claims in one or more continuation and/or divisional applications, if desired.

Claim 34 is currently being amended.

Claims 35-44 are currently being added. Support for these new claims may be found in Figures 11A, 11B, and on page 11, line 35 to page 13, line 27 of the specification.

This amendment adds, cancels and amends claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claims remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 34-44 are now pending in this application.

### **Claim Rejections – Prior Art:**

In the Office Action, claim 34 was rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,572,105 to Kato et al. in view of U.S. Patent No. 5,374,810 to Gantt or JP 57-133607 to Morita; and claim 34 was rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,819,150 to Hayasaki in view of U.S. Patent No. 5,866,884 to Cornec et al. and JP 57-133607 to Morita. These rejections are traversed with respect to

presently pending claim 34, for at least the reasons given below.

One of the advantageous features of the present invention, according to presently pending independent claim 34, is that an electromagnetic induction coil is made of a coated litz wire. In more detail, the electromagnetic induction coil comprises a litz wire. The litz wire is made of twisted unit wires or single wires, each of which being a conductor coated by a first insulating coating. Further, the litz wire made of unit wires is coated by a second insulating coating. This means that the inductor is doubly coated by first and second insulating coatings. In other words, according to the present invention as recited in presently pending independent claim 34, a doubly coated inductor is used as the electromagnetic induction coil. As a result, absolute electrical insulation is provided.

In contrast with this, such features are not disclosed, taught or suggested by any of the cited art of record. For example, while Morita describes the use of an enamel 6 that is baked on a surface of a super-conductive conductor 1 and the application of an insulated material 2 on the conductor 1, this 'double coating' is provided around a single wire, and thus it does not meet the claim features in which a plurality of unit wires are coated by a first insulating coating, and then a second insulating coating is provided around the plurality of unit wires.

Gantt describes a transformer that is coated by a first insulator layer 14, and then coated with a second insulator layer 16, as shown in Figures 1 and 2 of Gantt and as described in column 4, lines 34-45 of Gantt. Thus, like Morita, Gantt's 'double coating' is provided around a single wire, and thus it does not meet the claim features in which a plurality of unit wires are coated by a first insulating coating, and then a second insulating coating is provided around the plurality of unit wires.

Cornec describes an induction coil that includes copper wires individually coated with a layer of electrically insulated varnish, and in which a layer of thermal insulator 2a protects the flat induction coil 1 from heating by a

receptacle 3. See Figure 1 of Cornec, for example, and column 3, lines 24-33 of Cornec. There is no teaching or suggestion in Cornec, or in any of the applied art of record, of a litz wire, which comprises a plurality of single wires each coated by a first insulating coating, being itself coated by a second insulating coating. Note that Cornec's thermal insulator 2a is provided on a top surface of his individual copper wires 10, whereby this does not amount to coating the individual copper wires 10.

Kato et al. describes a heating apparatus in which an induction coil 3 is produced by winding a single wire of a Litz wire, and an insulating layer round the bobbin 1 in the direction along the rotary axis of the fixing roller 5, as disclosed in column 11, lines 5-13 of Kato et al., and as shown in Figure 14 of Kato et al. Figure 31 of Kato et al. shows a different embodiment in which an electric insulating member 39 has a tubular shape, as disclosed in column 19, lines 1-14 of Kato et al. Unlike the presently claimed invention, however, as clearly shown in Figure 14 of Kato et al., a 'first insulating layer' is provided around the bundle of wires making up the induction coil 3, and is not used to coat each of the single wires making up the induction coil 3.

Hayasaki, as acknowledged on page 4 of the Office Action, does not teach or suggest the "double coating" feature.

Accordingly, since none of the cited art of record teaches or suggests the invention as recited in presently pending independent claim 34, that claim is in allowable form.

**New Claims:**

New dependent claims 35-44 have been added to recite additional features of the present invention that provide an additional basis for patentability of those claims, beyond the reasons given above with respect to base claim 34.

**Conclusion:**

Since all of the issues raised in the Office Action have been addressed in this Amendment and Reply, Applicants believe that the present application is

now in condition for allowance, and an early indication of allowance is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

Date February 28, 2005

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